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EXAMINER

HALEY, JOSEPH R

ART UNIT PAPER NUMBER

2627

DATE MAILED: 06/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/616,035

Applicant(s)

PARK ET AL.

Examiner

Joseph Haley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 19, 30 and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendments to the specification are not consistent with figure 5B of the original disclosure. Figure 5B in no way indicates the timing of the movement of the transferring units.

In regard to claim 19, the transferring units are not in an area that is the same radius as the disc. It is clearly shown in fig. 5B that the radius of the units is larger than that of the disc.

The following rejections are made in view of the above rejections.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 12-15, 17-28, 34-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe (US 6407544).

In regard to claim 1, Watanabe teaches a pickup inspecting apparatus inspecting performance of pickups mounted to a disk drive and reading data from a disk, comprising: a disk driving unit rotatably supporting a disk (fig. 1 see also column 6 lines 67 and 68); and a plurality of pickup transferring units disposed around the disk driving unit (fig. 8 elements 23a-d), each holding a corresponding one of the pickups at a same radial distance from a center of the disk (see column 7 lines 19-25. see also column 2 lines 4-8 where Watanabe suggests testing on the same radius of the disc) the pickups to the disk driving unit to read data recorded on the disk (column 6 lines 63-65), so that the pickups held by corresponding ones of the pickup transferring units are inspected at once.

In regard to claim 2, Watanabe teaches a determiner transmitting a signal received from each pickup by a time division method (fig. 7 element 37); and a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner (fig. 7 elements 35 a and b).

In regard to claim 3, Watanabe teaches the disk driving unit comprises: a shaft to which the disk is supported; and a spindle motor connected to the shaft to rotate the disk (these are not shown in Watanabe but they are inherent elements).

In regard to claim 4, Watanabe teaches determiner transmitting a signal received from each pickup by a time division method (fig. 7 elements 34 a and b); and a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner (fig. 7 elements 35 a and b).

In regard to claim 12, Watanabe teaches a determiner transmitting a signal received from each pickup by a time division method (fig. 7 element 37); and a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner (fig. 7 elements 35a and b).

In regard to claim 13, Watanabe teaches a pickup inspecting apparatus inspecting performance of a plurality of pickups, comprising: a disk driving unit rotatably supporting a disk; and a plurality of pickup transferring units disposed around the disk driving unit so that the pickups are at a same radial distance from a center of the disk (see column 7 lines 19-25. see also column 2 lines 4-8 where Watanabe suggests testing on the same radius of the disc) to transfer the pickups to the disk driving unit, wherein the pickups are inspected at once in a programmed inspection (fig. 7 elements 23a and b).

In regard to claim 14, Watanabe teaches the disk driving unit is a single driving unit, and the disk is a single disk (fig. 7 element 25).

In regard to claim 15, Watanabe teaches a disk driving unit rotatably supporting a disk; and a plurality of pickup transferring units disposed around the disk driving unit to transfer the pickups to the disk driving unit, wherein the pickups are inspected at once

in a programmed inspection, wherein the number of the pickup transferring units is more than 2 (fig. 8. see arguments for claim 11).

In regard to claim 17, Watanabe teaches the pickup transferring units move between a first area corresponding to an inside area of the disk and a second area corresponding to an outside area of the disk (fig. 1).

In regard to claim 18, Watanabe teaches the pickup transferring units move to pass through a circular line having the same radius as the disk (column 6 lines 67 and 68).

In regard to claim 19, Watanabe teaches all of the pickup transferring units are disposed in a circular area having the same radius of the disk (fig. 8 elements 23 a-d). In regard to claim 20, Watanabe teaches all of the pickup transferring units are disposed around the disk driving unit in an outside of an area corresponding to the disk (fig. 7 elements 23a and b).

In regard to claim 21, Watanabe teaches a pickup inspecting apparatus inspecting performance of a plurality of pickups, further comprising: a base member; a disk driving unit mounted on the base member to rotatably support a disk; a plurality of pickup transferring units mounted on the base member and disposed around the disk driving unit (fig. 7 elements 23a and b); and a controller controlling the pick transferring units to transfer the pickups to the disk driving unit so that the pickups are at a same radial distance from a center of the disk (see column 7 lines 19-25. see also column 2 lines 4-8 where Watanabe suggests testing on the same radius of the disc) and

controlling the pickups to read data from the disk to be inspected at once (fig. 7 elements 35a and b).

In regard to claims 22, 24, 36, 38 and 40 see claim 14 rejection above.

In regard to claim 23, Watanabe teaches a pickup inspecting apparatus inspecting performance of a pickup used in a disk drive, comprising: a base member; a disk driving unit mounted on the base member and having a spindle motor and a shaft rotatably coupled to the spindle motor; and a plurality of pickup transferring units mounted on the base member and disposed around the disk driving unit to be spaced-apart from each other at a same radial distance from a center of the disk (see column 7 lines 19-25. see also column 2 lines 4-8 where Watanabe suggests testing on the same radius of the disc).

In regard to claim 25, Watanabe teaches the pickup transferring units are disposed within a circular area around the shaft of the disk driving unit (fig. 8 elements 23a-d).

In regard to claim 26, Watanabe teaches the pickup transferring units are disposed in a circular direction of the shaft of the disk driving unit (fig. 8 elements 23a-d).

In regard to claim 27, see claim 20 rejection above.

In regard to claim 28, see claim 17 rejection above.

In regard to claim 34, Watanabe teaches the pickup transferring units are disposed opposite to each other with respect to the shaft of the disk driving unit (fig. 7 elements 23a and b).

In regard to claim 35, Watanabe teaches rotatably supporting a disk on a disk driving unit; and disposing a plurality of pickup transferring units around the disk driving unit; and transferring a plurality of pickups disposed in corresponding ones of the pickup transferring units a same radial direction from a center of the disk to the disk (see column 7 lines 19-25. see also column 2 lines 4-8 where Watanabe suggests testing on the same radius of the disc) driving unit; and inspecting all of the pickups at once (fig. 7 elements 23a and b).

In regard to claim 37, see claim 35 rejection above.

In regard to claim 39, see claim 21 rejection above.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe in view of the applicant's admitted prior art.

In regard to claim 5, Watanabe teaches a pickup holder holding the pickup, however does not teach an angle adjusting part connected to the pickup holder to adjust an angle of the pickup holder with respect to the disk driving unit; and a feed motor connected to the angle adjusting part to transfer the pickup held by the pickup holder to the disk driving unit.



The applicant's admitted prior art teaches an angle adjusting part connected to the pickup holder to adjust an angle of the pickup holder with respect to the disk driving unit (fig. 1 element 125); and a feed motor connected to the angle adjusting part to transfer the pickup held by the pickup holder to the disk driving unit (fig. 1 element 125 a and b).

The two are analogous art because they both deal with the same field on invention of testing plural recording heads.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Watanabe with the skew motors of the applicant's prior art. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Watanabe with the skew motors of the applicant's prior art because it would allow for the skew angle of the head to be changed.

In regard to claim 6, Watanabe teaches a determiner transmitting a signal received from each pickup by a time division method (fig. 7 element 37); and a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner (fig. 7 elements 35 a and b).

In regard to claim 7, Watanabe teaches base member on which the disk driving unit and the pickup transferring units are seated, wherein the spindle motor is seated on the base member, the shaft is connected to the spindle motor, and the disk is coupled to the shaft so as to rotate together with the shaft (these are all inherent members).

In regard to claim 8, Watanabe teaches a determiner transmitting a signal received from each pickup by a time division method (fig. 7 element 37); and a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner (fig. 7 elements 35 a and b).

Claims 9-11, 16 and 29, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe in view of the applicants prior art further considered with Official Notice.

In regard to claim 9 Watanabe and the prior art teach all the elements of claim 9 except a guide block combined with the angle adjusting part under the angle adjusting part; and a guide rail provided on the base member to guide the guide block, wherein the feed motor is connected to the guide block and moves the guide block along the guide rail.

The Examiner takes Official Notice that using guide rails is well known in the art.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Watanabe and the prior art with a guide rail. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Watanabe and the prior art with a guide rail because it is a well known way to reliably guide a pickup in the radial direction of disc.

In regard to claim 10, Watanabe teaches a determiner transmitting a signal received from each pickup by a time division method (fig. 7 element 37); and a controller controlling each pickup by receiving the signal of the pickup according to the time division method from the determiner (fig. 7 element 35a and b).

In regard to claim 11, Watanabe teaches the number of the pickup transferring units is 4 and arranged around the disk driving unit (fig. 8).

In regard to claim 16, Watanabe and the prior art teach all the elements of claim 16 except the pickup transferring units move in a radial direction of a center of the disk by a distance greater than the radius.

The examiner takes Official Notice that it is well known in the art to move a pickup a distance greater than the radius of the disc.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Watanabe and the prior art with unit that moves the pickup in an area larger than the radius of the disc. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Watanabe and the prior art with unit that moves the pickup in an area larger than the radius of the disc because it would make loading of the disc easier.

In regard to claim 29, see claim 16 rejection above.

In regard to claim 32, Watanabe teaches the pickup transferring units move in a radial direction of the shaft of the disk driving unit (column 6 lines 63-65).

In regard to claim 33, Watanabe teaches the first position and second position are disposed in a radial direction of the shaft of the disk driving unit (column 6 lines 63-65).

### ***Response to Arguments***

Applicant's arguments filed 4/21/06 have been fully considered but they are not persuasive. On page 10 paragraph 5 that Watanabe teaches the use of two heads at

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different distances from the center of the disc. Watanabe does this to avoid one head writing information of the other but still teaches having the heads close enough so they are tested under the same conditions. Since the present invention is only performing a reading operation it would be obvious to have the heads at the same distance so they are tested under the same conditions. Also in column 2 lines 4-8, Watanabe suggests testing on the same radius  $r$ , therefore the rejection stands.

In paragraph 6, applicant argues that the number of transferring units be inspected at the same time is 4. The examiner maintains this rejection because Watanabe inspects the pickups being held by the pickup units at the same time. Watanabe also shows that there are four pickup units. Nowhere in the claim does it suggest that all four pickups are being inspected at the same time.

### ***Conclusion***


**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Haley whose telephone number is 571-272-0574. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jrh 

  
THANG V. TRAN  
PRIMARY EXAMINER